



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/578,691

08/07/2006

Akira Yufuku

P29844

4415

7055 7590 03/18/2009
GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

VU, JIMMY T

ART UNIT

PAPER NUMBER

2821

NOTIFICATION DATE

DELIVERY MODE

03/18/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No. 10/578,691	Applicant(s) YUFUKU ET AL.	
	Examiner JIMMY T. VU	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-6 and 13-15 is/are allowed.
- 6) ☒ Claim(s) 1,7,9-12 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 2 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/7/06, 9/26/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 7, 9-12 and 16-18 are rejected under 35 U. S. C. § 102 (b) as being anticipated by Hanazaki (U.S. Patent 5,705,897).

Regarding claim 1, Hanazaki discloses a lighting device (Figs. 1-2) for lighting a high-pressure discharge lamp (12, Fig. 1, col. 6, line 26) having an outer tube (Fig. 2), an interior of which is substantially under vacuum (Fig. 2), the lighting device comprising:

a ballast having at least a current limiting element (6, Fig. 1, col. 6, lines 27-30);

a high-voltage pulse generating circuit (112, Fig. 1) operable to generate a high-voltage pulse;

a lighting discriminating means (13, 15, 151 and 152, Fig. 1) operable to discriminate between lighting and non-lighting of the discharge lamp (col. 7, lines 1-9);

a timer circuit (circuit 16 which has a timer unit 101, Fig. 1) operable to set a predetermined period of time (col. 55-58); and

a pulse-stop control means (7 and 41, Fig. 1) operable to stop generation of the high-voltage pulse;

wherein when the lighting discriminating means discriminates non-lighting after lighting has been discriminated, generation of the high-voltage pulse is stopped within the predetermined period of time set by the timer circuit (PWM control unit 41 would perform the functions to control the high voltage generating circuit 112 based on the timer circuit).

Regarding claim 7, Hanazaki discloses a lighting device (Figs. 1-3) for lighting a high-pressure discharge lamp (12, Fig. 1, col. 6, line 26) having an outer tube (Fig. 2), an interior of which is substantially under vacuum (Fig. 2), the lighting device comprising:

- a ballast having at least a current limiting element (6, Fig. 1, col. 6, lines 27-30);

- a high-voltage pulse generating circuit (112, Fig. 1) operable to generate a high-voltage pulse;

- a timer circuit (101, Fig. 1) operable to set a predetermined period of time (col. 55-58)

- a return type cutoff means (circuit 16, Fig. 1) operable to cut off power supply to the discharge lamp upon detection of an abnormal temperature rise (parts 13, 15, 151 and 152 detect the abnormal temperature, Fig. 1); and

- a cutoff detecting means (circuit 4, Fig. 1) operable to detect cutoff (circuit 4 detect the cutoff from power controlling unit 7);

wherein the cutoff detecting means detects the cutoff, generation of the high voltage pulse is stopped within the predetermined period of time set by the timer circuit

Art Unit: 2821

(PWM control unit 41 would perform the functions to control the high voltage generating circuit 112 based on the timer circuit).

Regarding claim 9, Hanazaki discloses the lighting device wherein the return type cutoff means comprises a thermal protector (152, Fig. 1).

Regarding claims 10 and 16, Hanazaki discloses the lighting device wherein the lighting discriminating means is reset with power cutoff (the parts 13, 15, 151 and 152 would be reset when power cutoff so that the circuits and the lamp would be in normal operation when power is on).

Regarding claims 11 and 17, Hanazaki discloses the lighting device wherein the timer circuit (circuit 16 which has timer unit 101, Fig. 1) comprises a microcomputer (Fig. 3).

Regarding claims 12 and 18, Hanazaki discloses a lighting equipment having a lighting device (Figs. 1-3, see background in col. 1).

Allowable Subject Matter

3. Claims 3-6 and 13-15 are allowed.
4. Claims 2 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art teaches or fairly suggests the lighting device comprising “a half-wave discharge detecting means operable to detect half-wave discharge of the discharge lamp, and wherein when the half-wave discharge detecting means detects

Art Unit: 2821

half-wave discharge, the pulse-stop control means stops generation of the high-voltage pulse” (claim 3), and “wherein the discharge lamp further has an arc tube sealed in the outer tube and metallic elements disposed in the outer tube and outside the arc tube, and wherein the predetermined period of time set by the timer circuit is a period of time within which the metallic elements are cooled below a temperature at which no discharge occurs between opposite polarities of the metallic elements (claims 2 and 8).

Information Disclosure Statement

5. The references cited in Information Disclosure Statement (IDS) submitted on 08/07/2006 and 09/26/2006 have been considered by the examiner.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy T Vu whose telephone number is (571) 272-1832. The examiner can normally be reached on M - F: 9 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.

Application/Control Number: 10/578,691
Art Unit: 2821

Page 6

Jimmy Vu

March 02, 2009

/Douglas W Owens/
Supervisory Patent Examiner, Art Unit 2821